OAD: Associates of Applied Science in Drafting and Design

Gain job-ready CAD and BIM expertise through hands-on coursework that reflects real industry tools, workflows, and standards in the AEC field

Group classes in Live Online and onsite training is available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/certificates/oad-associates-of-applied-science-in-drafting-and-design

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Course Outline

This package includes these courses

- Residential Blueprint Reading Course Online (10 Hours)
- Commercial Blueprint Reading Course Online (20 Hours)
- Introduction to Residential Design Course Online (0 hours)
- Intro to AutoCAD Course Online (30 Hours)
- Intro to AutoCAD Lab Online (0 hours)
- Intermediate AutoCAD Course Online (30 Hours)
- Intermediate AutoCAD Lab Online (0 hours)
- AutoCAD Construction Documents I Course Online (30 Hours)
- AutoCAD Construction Documents II Course Online (30 Hours)
- AutoCAD Construction Documents III Course Online (0 hours)
- CAD Detailing Course Online (20 Hours)
- Introduction to Commercial Design Course Online (0 hours)
- Intro to Revit Course Online (30 Hours)
- Introduction to Revit Lab Online (0 hours)
- Intermediate Revit Course Online (30 Hours)
- Intermediate Revit Lab Online (0 hours)
- BIM Construction Documents I Course Online (30 Hours)
- BIM Construction Documents II Course Online (30 Hours)
- BIM Construction Documents III Course Online (30 Hours)
- BIM Detailing Course Online (20 Hours)
- Intro to Photoshop Course Online (30 Hours)
- Introduction to Photoshop Lab Online (0 hours)
- Intermediate Photoshop Course Online (30 Hours)

- Intro to Illustrator Course Online (30 Hours)
- Introduction to Illustrator Lab Online (0 hours)
- Intermediate Illustrator Course Online (30 Hours)
- Intro to InDesign Course Online (30 Hours)
- Introduction to InDesign Lab Online (0 hours)
- Intermediate InDesign Course Online (30 Hours)
- Revit & Twinmotion Interior Rendering Course Online (30 Hours)
- Revit & Twinmotion Exterior Rendering Course Online (Coming Soon) (30 Hours)
- Communication & Connection Course Online (10 Hours)
- Self-Management Skills Course Online (10 Hours)
- Teamwork, Collaboration & Leadership Course Online (10 Hours)
- OAD Capstone Project (0 hours)
- OAD Portfolio Course Online (0 hours)
- College Algebra Course Online (0 hours)
- College Geometry Course Online (0 hours)
- Calculus 1 Course Online (0 hours)
- English Composition Course Online (0 hours)
- Technical Writing Course Online (0 hours)
- Intro to Sociology Course Online (0 hours)
- Communications Course Online (0 hours)
- Art History Course Online (0 hours)

Residential Blueprint Reading Course Online

Taught by a licensed architect, this Residential Blueprint Reading Course is designed to provide you with a thorough understanding of how to interpret and analyze residential construction blueprints. This comprehensive, instructor-led course is ideal for beginners looking to gain essential skills, as well as for seasoned professionals seeking to improve their ability to collaborate on residential projects.

- Demonstrate an understanding of the inter-relationship between the drawings included in a set of Construction Documents (blueprints).
- Analyze different drawings and see how scale is presented throughout a set of Construction Documents.
- Evaluate the similarities between all sets of blueprint construction documents submitted for building permits.
- Recognize the need for consistency in presenting information in all types of Construction Documents in this online blueprint reading course.

Commercial Blueprint Reading Course Online

Learn to interpret and analyze commercial construction blueprints in this Commercial Blueprint Reading Course taught by a licensed architect. Designed for construction professionals and students, this course focuses on mixed-use commercial projects, including hotel, retail, and parking structures. You'll develop skills to read architectural, structural, mechanical, and electrical plans.

- Gain a comprehensive understanding of architectural, structural, mechanical, and electrical plans as applied to a mixed-use commercial construction project.
- Learn to read and interpret symbols, notations, and technical details in accordance with industry standards. Evaluate the similarities between all sets of construction documents submitted for building permits.

- Work with real-world construction drawings and documents to build practical skills.
- Understand how blueprints are used to estimate costs, plan projects, and ensure on-site accuracy during construction.

Introduction to Residential Design Course Online

Intro to AutoCAD Course Online

Learn AutoCAD in this beginner-friendly online course. You'll start by drawing drafting symbols and common kitchen and bath fixtures, then create a complete floor plan and assemble everything into a single deliverable sheet file. The course introduces the AutoCAD interface and commands, including drawing and modifying tools, layering standards, text, dimensioning, and plotting.

- Create drafting symbols, kitchen and bath fixtures, and a complete floor plan, then integrate all elements into one deliverable sheet file
- Understand the difference between drawings used for annotation and those used as real-world model components
- Create, insert, and manage blocks and external references, and learn when each should be applied
- Practice file management, drafting on layers, integrating drawing component files, and plotting while completing the residential project

Intro to AutoCAD Lab Online

Intermediate AutoCAD Course Online

In this course, you'll create an abbreviated set of CAD construction documents for a Habitat for Humanity project, including floor, roof, foundation, and electrical plans, plus building elevations. You'll use blocks and external references to link drawings and improve workflows while reinforcing core AutoCAD skills and learning advanced techniques such as file referencing, coordinate systems, dynamic viewing, and model and paper space conventions.

- Create an abbreviated set of construction documents, including floor plan, foundation plan, electrical plan, and building elevations for a small residential project.
- Create and insert blocks, externally reference files, and determine the appropriate times to apply those skill sets to optimize project efficiency.
- Demonstrate layer and file management, external file referencing, use of model/layout environments, and user coordinate systems.
- Apply intermediate-level skills, including layer management, user coordinate system development, creating sheet layout environments, and plotting.

Intermediate AutoCAD Lab Online

AutoCAD Construction Documents I Course Online

In this course, we use AutoCAD to d evelop titleblock drawings from scratch, draft a floor plan, multi-scale enlarged plans, roof plan and building elevations for a more complicated one-story residence. You will learn important, relevant & practical CAD workflow skills, including AutoCAD commands, menuing systems and project workflow. The course covers two-dimensional (2D) drawing commands and drafting techniques for developing construction documents, including dimensioning, layout environments, layering systems and plotting.

- Create titleblock and titleblock/drawing label components for a professional office to facilitate development of deliverable sheet files.
- Create floor plan, enlarged plan, roof plan and building elevation of a moderately complex residential project. Includes the development of floor plan, roof plan and elevation notes.

- Successfully integrate referenced files to create construction documents. Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentation.
- Organize deliverable sheet set to conform to the National CAD Standards.
- Apply intermediate-level skills to create sheet layout environments and plotting.

AutoCAD Construction Documents II Course Online

AutoCAD Construction Documents II is an advanced-level course designed to elevate your expertise in producing professional construction documents using AutoCAD. This course builds upon fundamental drafting and AutoCAD skills, focusing on the creation of precise, detailed construction drawings that meet industry standards. You will learn how to create cohesive and technically accurate sets of plans, allowing for better communication across various teams.

- Create building elevations, building sections, wall sections; modify detail drawings; create metes and bounds (Civil) drawing; create relevant deliverable sheet files for a moderately complex residential project. Includes the development of title sheet and appropriate general and keynote legends.
- Successfully integrate referenced files to create construction documents. Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentations.
- Apply intermediate/advanced-level skills to create sheet layout environments and plotting.
- Organize deliverable sheet set to conform to the National CAD Standards.

AutoCAD Construction Documents III Course Online

CAD Detailing Course Online

Create detail drawings in this CAD detailing course. Students learn the two dominant CAD standards that AEC firms use, making detail drawings from scratch and by referencing and clipping information from other drawings. Learn drawing standards and about organizing your details.

- Create detail drawings pertinent to the course project.
- Create relevant deliverable sheet files.
- Integrate referenced files to create details for construction documents.
- Demonstrate layer and file management, use of model/layout environments and multi-scale drawing presentations.
- Apply intermediate/advanced-level skills to create sheet layout environments and plotting.

Introduction to Commercial Design Course Online

Intro to Revit Course Online

In this beginner-friendly Intro to Revit course, you'll dive into how Revit (BIM) links all your project information using the Revit Architecture tools. You'll learn how to design 3D models that automatically generate 2D architectural drawings, including floor plans, elevations, and 3D perspective views. Starting with a pre-made template, you'll build a Building Information Model, create floor plans and elevations, generate 3D views, place them on sheets, and print them to PDF.

- Describe Primary Revit Concepts and how they relate to Building Information Modeling (BIM).
- Explore the Revit User-Interface.
- Design a 3D building model to explain how information is interrelated
- Determine the appropriate workflow to complete tasks within Revit.

- Develop a project that includes floors, walls, ceilings, stairs, curtain walls, and roof design to strengthen 3D modeling and 2D documentation skills.
- Create presentation-level architectural graphics.
- Catalog building information using schedules.

Introduction to Revit Lab Online

Intermediate Revit Course Online

In this intermediate BIM class, you'll learn advanced Revit techniques for documenting projects, including scheduling components, creating 2D/3D families, refining graphics, and making a streamlined construction document set. You'll also build on an existing model, explore design options, create custom schedules, and develop custom Revit families. By the end, you'll turn a conceptual model into a complete, integrated construction document set.

- Integrate DWG Files to create Revit details.
- Tag elements for cost estimation and material take-offs.
- Explore the capabilities of design options and how to present different options.
- Create 3D parametric families.
- Build customized door, material, and room schedules that can be used for construction take-offs.
- Explore BIM project Management techniques to keep models efficient and user-friendly.

Intermediate Revit Lab Online

BIM Construction Documents I Course Online

This online Revit course is the first of two focused on creating construction documents. You'll model a single-story commercial building, import AutoCAD drawings, create a site model, and then add a two-story extension, simulating real-world AEC workflows. The course covers advanced Revit techniques for commercial projects, led by an Autodesk Certified Instructor with experience in commercial, medical, and biotech design.

- Using BIM tools to model existing buildings, partial demolition, and new constructions.
- Creating site plans with topography, hardscape, and landscaping.
- Differentiating construction phases through graphics.
- Producing presentation-quality renderings for documentation.

BIM Construction Documents II Course Online

In this intermediate course, you'll create construction documents for the commercial building and site created in BIM 301. You'll also create the sheet drawings and will add keynotes, detail drawings, and schedules.

- Prepare a set of architectural construction documents incorporating the site and building models created in BIM 301.
- Develop progress sets of construction documents, reflecting 30/60/90/100 percent deliverable submittals.
- Produce plan, section, and elevation views of the project for sheet layout.
- Keynote elements of the project model. Develop schedules and a limited number of architectural details extracted from the BIM model.

BIM Construction Documents III Course Online

This advanced BIM construction documents course covers both residential and commercial projects, helping you develop skills for creating floor plans, elevations, and 3D perspectives. You'll learn to create detailed 3D building models and generate professional 2D architectural drawings using Revit.

- Create and place graphic-symbol and material legends; standardize view titles and sheet presentation
- Dimension exterior/interior plans consistently, add partition schedules, and apply wall types per intent
- Add and manage keynotes across plans, elevations, sections, and the roof—using a shared keynote table
- Develop enlarged plans and interior elevations with coordinated tags, dimensions, and view templates
- Set up phasing for tenant-fit layouts; QC, revision-cloud/tag sheets, and export a scaled PDF set for midterm and final

BIM Detailing Course Online

Master the art of creating detailed construction drawings that ensure structural integrity, safety, and design clarity. This course focuses on developing your skills in Revit to create comprehensive building system details and manage them according to industry standards.

- Create detail drawings of building systems which illustrate structural integrity and sound building construction practices.
- Create and integrate detail drawings which limit or prevent accidental injury or death among users of the buildings.
- Prepare detail drawings illustrating construction systems, products, and finishes.
- Develop details and manage the detail information to confirm with project-based lineweight and National CAD/BIM standards. abbreviated set of construction documents.

Intro to Photoshop Course Online

Learn the Adobe Photoshop user interface and the specific tools and features that make Photoshop valuable. Learn major strategies to adjust, correct and supplement photos and graphic projects.

- Recognize the basic tools of Photoshop and appropriately utilize these tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.
- Implement proper understanding and organization of files and layers within the layers panel and Photoshop interface.
- Appropriately adjust and export images with variations in image file-type, dimension and color.

Introduction to Photoshop Lab Online

Intermediate Photoshop Course Online

This Photoshop class reinforces techniques and expands on the Introdction to Photoshop class. You will learn important strategies on how to work successfully, how to plan, design, collaborate and export a project.

- Reinforce the basic tools of Adobe Photoshop and appropriately use these tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.
- Incorporate client's determined goals, audience, and branding.
- Assess and adjust image strategy based on determined marketing and design goals.

Intro to Illustrator Course Online

Learn Adobe Illustrator, the industry-standard professional vector drawing program. Gain real-world, practical experience using Illustrator to produce vector art for both print and web design.

- Recognize the basic tools of Illustrator and appropriately use these tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.
- Implement proper understanding and organization of files and layers within the layers panel and Illustrator interface.
- Appropriately adjust and export images with variations in image file-type, dimension and color.

Introduction to Illustrator Lab Online

Intermediate Illustrator Course Online

Learn to use Adobe Illustrator, including the tools and features that make Illustrator useful for photo and graphic projects.   This class reinforces basic strategies of Introduction to Adobe Illustrator and introduces intermediate techniques for graphic design. Learn additional tools and methods to craft a series of graphic marketing materials. In this online training class, students will learn basic Illustrator strategies necessary for adjusting, correcting, and supplementing photos and graphics. This course is for professional designers, architects, engineers, contractors, marketers, and others seeking professional advancement or job transition.

- Recognize the basic tools of Illustrator and appropriately utilize these tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.
- Implement proper understanding and organization of files and layers within the layers panel and Illustrator interface.
- Appropriately adjust and export images with variations in image file-type, dimension and color.

Intro to InDesign Course Online

Adobe InDesign is a desktop publishing program that allows you to design high-quality brochures, flyers, business cards, postcards, books, and even pages for digital publishing. In this course, you will learn how to add, place, and resize graphics; how to create text, import text, and work with text in a document; how to draw shapes and use those shapes in your document; and how to package your work for a commercial printer.

- Recognize the basic tools of InDesign and appropriately use the tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.
- Implement proper understanding and organization of files and layers within the layers panel and InDesign interface.
- Appropriately adjust and export images with variations in image file-type, dimension, and color.

Introduction to InDesign Lab Online

Intermediate InDesign Course Online

Learn InDesign in this online Introduction class for professional designers, architects, engineers, contractors, marketers, and others seeking professional advancement or job transition through the acquisition of Adobe InDesign skills for their professional or personal advancement. Learn to use Adobe InDesign, including the tools and features that make InDesign useful for photo and graphic projects. In this online training class, students will learn basic InDesign strategies necessary for adjusting, correcting, and supplementing photos and graphics.

- Recognize the basic tools of InDesign and appropriately utilize these tools for the desired adjustments and corrections.
- Carry out techniques to adjust, enhance, supplement, and compose files necessary to produce marketing materials.

- Implement proper understanding and organization of files and layers within the layers panel and InDesign interface.
- Appropriately adjust and export images with variations in image file-type, dimension and color.

Revit & Twinmotion Interior Rendering Course Online

This course provides a comprehensive introduction to real-time rendering with Revit and Twinmotion, focusing on creating high-quality interior visualizations. You will gain hands-on experience with essential tools and techniques to bring their designs to life with stunning detail and interactivity.

- Navigate and master the Twinmotion interface for seamless project creation.
- Export and link Revit models to Twinmotion while maintaining real-time synchronization.
- Apply materials, lighting, and furniture to enhance the realism of interior spaces.
- Configure natural and artificial lighting to create mood and visual storytelling.
- Create multiple camera views and optimize scene composition for impactful renderings.
- Develop a fully rendered interior scene ready for your portfolio or client presentations.

Revit & Twinmotion Exterior Rendering Course Online (Coming Soon)

Discover how to take your Revit models into Twinmotion and transform them into immersive, real-time visual experiences. This course focuses on exterior visualization, guiding you through the process of connecting models, refining materials, setting up realistic lighting, and adding context with landscapes and people. You'll explore how to generate high-quality renderings and animations that bring design concepts to life for clients and presentations. With a strong emphasis on practical application, you'll leave the class with a polished exterior project that highlights your ability to create professional visualizations using the latest real-time tools.

- Navigate the Twinmotion 2025 interface and use core tools for efficient project setup and management.
- Import and export Revit and SketchUp models into Twinmotion with real-time synchronization.
- Apply and customize exterior materials, lighting, and landscaping to enhance design realism.
- Configure natural and artificial lighting to set the atmosphere and support visual storytelling.
- Develop and manage camera views for optimized scene composition and presentation.
- Produce and export dynamic animations that clearly communicate building designs.

Communication & Connection Course Online

In this course, you'll develop emotional intelligence and communication skills, with a focus on diversity, equity, and inclusion (DEI). You'll learn to build connections, make requests, manage conflict, and negotiate effectively. The course also covers public speaking and body language to enhance your communication. Designed to improve problem-solving, teamwork, and leadership, you'll engage in group discussions and interactive forums to refine these essential skills.

- Build connections and make requests effectively
- Develop emotional intelligence and enhance communication skills
- Focus on diversity, equity, and inclusion (DEI) in your interactions
- Master conflict management and negotiation strategies
- Learn the art of public speaking and how to use body language for better communication
- Strengthen problem-solving, collaboration, and leadership skills
- Engage in group discussions and interactive forums to refine these essential skills

Self-Management Skills Course Online

This soft skills course for construction professionals covers time management, goal setting, and improving efficiency. You'll learn how to build a positive mindset, prioritize key tasks, and make decisions using a proven framework. Focusing on communication, teamwork, and leadership, the course also emphasizes ethics and integrity to build trust. Engage in group discussions and connect with your instructor and classmates to refine these essential skills.

- Evaluate your time
- Improve efficiency
- Prioritize what matters
- Establish a positive frame of mind and set career and life goals
- Form a framework to make decisions
- Prioritize ethics and integrity to build trust

Teamwork, Collaboration & Leadership Course Online

Teamwork, Collaboration & Leadership will help you learn the essential skills which are often overlooked and will improve your ability to solve problems, thrive on teams, and lead others. This course focuses on planning and conducting meetings to build collaboration. Learn the principles needed to thrive as a team and make decisions as a group to move an idea forward. You will also learn to inspire others by applying the fundamentals of leadership, regardless of which position you hold at your organization. You will participate in group discussion forums, connect with your instructor, and message your classmates.

- Effectively conduct meetings
- Build collaboration
- Thrive as a team and make decisions as a group
- Encourage teams to buy into an idea or plan
- Move an idea forward in a group setting
- Inspire others through leadership

OAD Capstone Project

OAD Portfolio Course Online

College Algebra Course Online

Study the core concepts of college algebra, including functions, equations, inequalities, and graphing, while building problem-solving skills.

- Understand the fundamental concepts of college-level algebra.
- Solve problems involving linear, quadratic, polynomial, rational, exponential, and logarithmic functions.
- Work with systems of equations and inequalities.
- Use graphing techniques to analyze algebraic relationships.
- Strengthen problem-solving and critical thinking skills through algebraic methods.
- Apply algebra concepts to real-world contexts with accuracy and confidence.

College Geometry Course Online

Study Euclidean geometry through shapes, constructions, coordinate geometry, and transformations while building strong problem-solving skills.

- Understand the fundamental principles of Euclidean geometry.
- Analyze points, lines, planes, angles, polygons, and circles.
- Apply concepts of congruence, similarity, and parallelism.
- Solve problems involving area, volume, and geometric constructions.
- Use coordinate geometry and transformations to analyze figures.
- Strengthen logical reasoning, spatial reasoning, and critical thinking skills.

Calculus 1 Course Online

Learn the foundations of calculus through limits, derivatives, integrals, and real-world problem-solving in technical and scientific contexts.

- Understand the fundamental concepts of differential and integral calculus.
- Evaluate limits and continuity.
- Differentiate algebraic and transcendental functions.
- Apply derivatives to solve problems involving rates of change and other applications.
- Work with definite and indefinite integrals, including the Fundamental Theorem of Calculus.
- Use calculus concepts to analyze problems involving change, accumulation, and mathematical modeling.

English Composition Course Online

Strengthen writing, reading, and communication skills while learning to create clear, structured documents for academic and professional contexts.

- Develop strategies for planning, drafting, revising, and editing written work.
- Write clear, concise, and well-structured documents for a range of contexts.
- Strengthen critical reading and effective communication skills.
- Complete technical reports, research-based essays, correspondence, and presentations.
- Apply proper grammar, documentation, and audience awareness in writing.
- Produce polished writing that demonstrates critical thinking and supports academic and professional goals.

Technical Writing Course Online

Learn how to write clear, organized, and professional technical documents for industry settings.

- Analyze audiences and tailor technical documents to their needs.
- Organize complex information in a clear, precise, and accessible way.
- Create professional documents such as reports, proposals, instructions, and manuals.
- Use visuals and document design to support clarity and usability.
- Collaborate on technical and professional communication projects.
- Produce polished documents that meet workplace and industry standards.

Intro to Sociology Course Online

Explore the foundational concepts of sociology and examine how society, culture, and institutions shape human behavior and

social life.

- Understand the fundamental concepts, theories, and methods of sociology.
- Explore how social structures and institutions influence individual and group experiences.
- Examine the role of culture and social interaction in shaping behavior.
- Analyze how society affects human experience at both the individual and collective level.

Communications Course Online

Learn the fundamentals of human communication, including interpersonal, group, and public speaking skills for a variety of settings.

- Understand the fundamentals of human communication across interpersonal, small group, and public speaking contexts.
- Use verbal and nonverbal communication strategies more effectively.
- Practice active listening to improve understanding and engagement.
- Analyze audiences and adapt communication styles to different situations.
- Apply conflict resolution strategies in personal and professional interactions.
- Build confidence and professionalism in presentations and everyday communication.

Art History Course Online

Survey major movements, artists, and works in art history while developing skills in visual analysis and critical interpretation.

- Identify major movements, artists, and works in the history of art from prehistoric times to the modern era.
- Examine painting, sculpture, architecture, and other visual media across different civilizations and time periods.
- Analyze works of art using visual and critical interpretation skills.
- Understand the cultural, social, and historical contexts that shape artistic production.
- Discuss how art reflects and influences human experience across global traditions.
- Develop a broad appreciation for the enduring significance of art history.